Q. Can you kindly share the sample geo-database of GIS-T phase I project?

A. Yes, please email me at lvallabhaneni@mag.maricopa.gov to request for a sample database. You need to sign license agreement to receive the sample geo-database.

Q. What deliverables should be emphasized?

A. MAG staff realizes inter connections between different tasks and deliverables. At this point project team put emphasis on development of the viewer, and multi year master network. The ability to easily maintain the master network in linear reference system, and create modeling networks is also important.

Task 2 on the other hand requires considerable input and review from MAG member agencies and will require considerable work with member agencies prior to its acceptance. It should be noted that the MAGPI application has been tested by MAG staff and was determined to be overly complex and not sufficiently user-friendly application.

Q. What emphasis should be placed on completing elements within Task 2?

A. Within Task 2, the first priority should be placed on editing attribute data. The second priority should be assigned to editing network features'geometry as this is both more technically demanding and difficult in terms of obtaining MAG member agencies approval. We will be looking at the proposed solutions for this task in the overall context of the proposal.

Q. The current application involves separate databases for the MAGPI application and GIST. What is the reason for this split and are we required to maintain it?

A. At the time of application development, MAG's external web server was colocated in an environment that could not support replication to the servers in the MAG offices. The MAGPI application was therefore required to be a separate application that shipped changes back to MAG. MAG's colocation provider has changed and replication will likely be possible in this new configuration. MAG will consider any database modifications required to support its goals as long as the original and current functional specifications are met. MAG's connection to the Internet is limited and it is not desirable to have the web server directly accessing a server in the MAG offices. Replication of a single database is preferable.

Q. What is the current DBMS environment?

A. A mixture of SQL Server 2000 and 2005. GIS-T Phase I of the project is implemented using SQL Server 2000.

Q. Is GIS-T part of web application?

A. GIS-T Phase I is not a web application.

Q. How important is the ability to import/export from GIS-T to TRANSCAD (task 3)?

A. MAG is looking for functionality that enables efficient master network coding and efficient creation of modeling scenarios consistent with master network data. This task can be achieved by different means. If we will have robust user friendly tools to edit master network in ArcGIS environment we might not need TransCAD - ArcGIS import tool. On the other hand if it turns out that editing tools already available in TransCAD will be used for modifications - we will need reliable tool to import the changes into the master networks stored in the ArcGIS environment. Ideally (but it might be not feasible within proposals' limitations) we would like to have both options available. The final decision on what software environment should be used for master network coding will depend on the particulars of the successful proposal.

Q. Do you want to maintain the network as LRS?

A. Yes

Q. Which version of ArcGIS currently are you using?

A. ArcGIS 9.2 SP5

Q. Is MAGPI application going to stay on consultant server or MAG server?

A. Currently it is located on consultant server; eventually it will be moved to MAG server.

Q. Is MAGPI a windows application?

A. Yes and it is based on ArcIMS.

Q. Are you using shape files in MAGPI or from a database?

A. We are using ArcSDE Geodatabase with SQL Server.

Q. Are you creating route as LRS or are you just editing route network in GIS-T?

A. Creating route as a LRS.

Q. Deliverables in 9.2 or 9.3?

A. Deliverables should be developed for ArcGIS 9.2 SP5 and maintenance should ensure that these applications will continue to run even if versions are upgraded during the maintenance period.

Q. Data Acquisition – is data purchasing a part of this proposal/scope of work?

A. No data needs to be purchased.

Q. Explain what is meant by "non-fixed installation?"

A. Hard coded (absolute) path names are not desirable. We would like to be able to specify the location where the applications are installed and we need the installation to accept relative path names.

Q. In the demo of GIS-T the editing of LRS (routes, measures) is it done in ArcSDE or shape files?

A. ArcSDE

Q. Is the editing performed in a versioned environment?

A. Our goal is to be able to perform network editing in a versioned environment, both transactional and historical. Right now SDE has to be versioned in 9.1 (the version the tools were developed for) so that the GIS-T tools can work. We are currently using ArcGIS 9.2 and some of the network editing tools works on a versioned geodatabase, others do not.

Q. What are the QC checks used in the editing of LRS?

A. The first is the use of domains (e.g., range value domains or coded value domains) that limit the type and values of fields. The second type of QC check are topology rules. There are several topology rules implemented in phase 1 of GIS-T. Deviations from topology rules will show as errors in ArcGIS. The editing environment relies heavily on snapping to ensure correct geographic relationships.

Q. Why is the GIS-T export tool to TRANSCAD hosted at Carter & Burgess and not at MAG?

A. It is hosted at MAG, the web page you see when accessing the export tool is click once deployment. This is used so that the consultants can easily upgrade export tool whenever there is a version change in either ArcGIS or TRANSCAD.

Q. How does MAG feel about hosting own web application VS. letting a consultant host the web application?

A. The decision to outsource the web application will depend on a number of other more important factors, such as future costs, overall attractiveness of the proposal, security, etc. At this stage MAG will consider proposals with on-site and outsourced hosting of the web application.

MAG will maintain full ownership of all data in an outsourced system and the vendor should be able to provide the data on demand. They should also include costs for the subsequent years of hosting and details on backup procedures, security standards, quality of service and response time for issues. The vendor should also detail ownership of the

source code and how MAG will retain access to its data in the event of the vendor going out of business or terminating the product.

Q. For all the custom tools shown in the demo will MAG make all the source code available to the chosen consultant?

A. Yes to the selected consultant for Phase II of this project.

Q. Examples of continuous events in GIS-T?

A. Number of lanes, facility type, area type, mode, district, name, and speed limit.

Q. Any QC for attribute checking?

A. The (Range value domains & coded value domains) limit the type of and value of fields in GIS-T and act as QC checks.

Q. Are there any additional components to be purchased to move the data from previous consultant's server?

A. No

Q. What was the budget of previous project?

A. $400,000.00

Q. Does MAG own ArcGIS server? Is there an intent to move from ArcIMS to ArcGIS server? Do you plan to use SQL server 2008?

A. Yes MAG owns ArcGIS server, MAG performs regular upgrades of SQL and ESRI software. MAG has purchased a ArcGIS server license to support external applications. MAG would consider support of MS SQL 2008 based on consultant recommendations, industry standards, and internal testing.

Q. Which version of ArcGIS server? Standard or Enterprise?

A. 9.2 Advanced Enterprise.

Q. How long does the consultant need to support for maintenance of the products developed?

A. The product bugs should be fixed by the consultant and whenever there is an upgrade in the software versions the consultant need to support it. At this point MAG will consider 1 year term after all the deliverable are provided to MAG to be a reasonable assumption for the consultant's support.

Q. What version of TRANSCAD are you using currently?

A. TRANSCAD 4.8 with plans to switch to TRANSCAD 5.0 in the next few months.

Q. Are you creating existing line objects as routes in GIS-T?

A. We can create routes from existing line objects as well create new routes with MAGNET (street centerline file) or aerial photography as base layer.

Q. Two routes with two events, what happens to events when we merge routes in GIS-T?

A. The events do not merge into one event; the events remain as 2 events and will maintain all the attribute information as before.

Q. When you split a route what happens to the events?

A. The event gets split too, keeping the attribute information same.

Q. If you did not select the events and split the route, what happens to the unselected events?

A. Even though the events are not selected, once a route is split the associated events with that route gets split.

Q. Do you see need to preserve the deleted routes?

A. Yes, if the alignment changes for a route in future years we need to delete the existing year route and the existing year centroid connectors and add new alignment and new connections for future year. In this scenario we maintain both the routes (added and deleted) in the database so that we can export the routes and connectors for respective years. If there is a change in attribute information, the database maintains the attribute changes information too.

Q. Do you work with DOT, who maintains the information of DOT?

A. ADOT is a MAG member agency. ADOT and MAG exchange a variety of data sets and information as required by business and planning processes in the region. The selected consultant will have contractual obligations with MAG only. MAG will ensure that the consultant has all the data available for the project needs.

Q. Can we shorten the route? What happens when we shorten the route in GIS-T?

A. We can split the route and delete a part of the route, when we delete a part of the route the events associated with the route gets deleted.

Q. Can we move the event beyond the route?

A. No. Event can only be placed on the existing route but not beyond a route.

Q. How many MAG staff need to be trained in GIS-T?

A. Roughly 10 to 12 MAG staff.

Q. Are there different databases for different years?

A. No, the multi-year master network is in a single database.

Q. For export to TRANSCAD, can you select a subset of network and export?

A. No, we can only export the network by year but not by subset of area.

Q. Who would be responsible to enter all the MAG projects into geo-database?

A. The consultant will enter all the existing projects available until now. Future projects can be entered by MAG staff or MAG jurisdictions using the "Editor."

Q. What technology is used in MAGPI for posting online?

A. ArcIMS

Q. Is there any map output or printing functionality in the current MAGPI?

A. No, but in this phase of the project we would like to have that functionality, the member agencies should also be able to download the feature classes.

Q. What is a sub-location in MAGPI? Is this concept still desired in Phase II?

A. Sub-location is geographic extent of a project segment. MAGPI was developed as an application to collect project data from MAG member agencies to be included in the MAG TIP and RTP. The spatial description of a project could include multiple segments - sub locations. Thus it was possible, for example, that a project could be described as running West along some alignment from one point to another point and then turning North and extending along another alignment to another point. In this scheme, separate sub locations would be defined as the West/East segment and the North/South segment that would comprise the project.

The use if sub-locations is included only to allow for the definition of a project in terms of multiple segments. MAG is open to consider any alternative solutions. Also, it should be noted that very few projects need to be defined in this way.

Q. Is work phasing in MAGPI still desirable in this phase of the project?

A. Phasing in MAGPI refers to work activity on a project. For example, right-of-way acquisition or design or construction. The ability to identify work phases in this sense is essential.

The way it is currently implemented, it <u>DOES NOT</u> refer to a geographical breakdown of work on a project. For example, it <u>DOES NOT</u> refer to breaking a project into 2 parts, where phase A results in the construction of the first mile of the project and phase B refers to the completion of the last mile of the project

Q. Do we need to keep the same data and concepts in MAGPI and just need to make the tool more user-friendly?

A. We need a more user-friendly Editor tool, and also the selected consultant has the opportunity to change the data structure of MAGPI.

Q. Would you involve member agencies in Editor?

A. Yes, Editor should be designed with close attention to MAG member agencies comments and suggestions.

Q. Do you want to automate the import into TRANSCAD using GISDK?

A. Yes, if it is being done in an efficient and user-friendly manner.

Q. Do you build future years by taking advantage of base year routes or do you create new routes?

A. We can take advantage of base year routes and start building future years. Any alternative proposals in this regard will be considered.

Q. Do you envision a tool that applies planned changes into base network and create future network?

A. Yes, you can apply just the planned changes into base year network (e.g. 2006) and complete the future base year network (e.g. 2008). The base year should be updated annually.

Q. If there are no changes to a street corridor, will it be the same in all the years in GIS-T?

A. Yes. If there is no alignment or attribute changes the route remains the same in all the years in the existing GIS-T system.

Q. Of the existing data fields currently shown in MAGPI, which fields are expected to be excluded from the Phase II project entry tool?

A. MAGPI was developed without input from MAG member agencies and it is expected that substantial changes in the design of the form will be needed once agency input is obtained.

Also, MAG has largely abandoned its current Congestion Management System (CMS) and has an ongoing contract to develop a new CMS and a performance monitoring system. As a result, a number of attribute fields in MAGPI may be eliminated, modified or added, but at this time the exact changes are unknown.

However, certain fields will be needed for projects at a minimum to meet federal and modeling requirements. These include:

- TIP Identification Number or other numbers used to uniquely identify a project in a mandated program or plan (RTP, ALCP, FLCP, TLCP)
- Sponsoring Agency
- Location
- Work Description
- Funding Source(s)
- Funding Amount(s)
- Program Year
- Number of Through Lanes on a roadway after construction
- Number of Through Lanes on a roadway prior to construction
- Roadway length (miles)
- ALI number for transit projects

It should be noted that in the last update of the TIP, the data collection form used focused on a before and after approach --
e.g. what the facility currently looks like before the work is performed and what it will look like after the work is performed.

Q. Of the project geometry entry modes currently shown in MAGPI (i.e., Region-wide, for one or more member agencies, on a route, etc.), which are desired to be included in the Phase II project entry tool?

A. We would like to have all the entries how they are right now, but we are open to consideration.